

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
6 May 2004 (06.05.2004)

PCT

(10) International Publication Number
WO 2004/037167 A3

- (51) International Patent Classification⁷: **A61F 2/00**,
A01N 37/18
- (21) International Application Number:
PCT/US2003/029853
- (22) International Filing Date:
22 September 2003 (22.09.2003)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:
60/419,639 18 October 2002 (18.10.2002) US
- (71) Applicant (*for all designated States except US*):
MOLICHEM MEDICINES, INC. [US/US]; 100
Europa Drive, Suite 421, Chapel Hill, NC 27517 (US).
- (72) Inventor; and
- (75) Inventor/Applicant (*for US only*): **MOLINA, Luis**
[AR/US]; 3912 Kildrummy Drive, Durham, NC 27705
(US).
- (74) Agents: **KNOWLES, Sherry, M. et al.**; King & Spalding
LLP, 191 Peachtree Street, 45th Floor, Atlanta, Georgia
30303-1763 (US).
- (81) Designated States (*national*): AE, AG, AL, AM, AT, AU,
AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU,
CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE,
GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR,
KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK,
MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT,
RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR,
TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (*regional*): ARIPO patent (GH, GM,
KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW),
Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),
European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE,
ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO,
SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM,
GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).
- Published:
— *with international search report*
- (88) Date of publication of the international search report:
4 November 2004
- For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*

(54) Title: METHODS OF TREATING DRY EYE DISEASE WITH LANTIBIOTICS

(57) Abstract: The treatment of dry eye disease with lantibiotics such as duramycin is described, along with pharmaceutical formulations useful for carrying out such treatments.

WO 2004/037167 A3

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US03/29853

A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : A61F 2/00; A01N 37/18

US CL : 424/427; 514/2

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 424/427; 514/2

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
WEST, STN

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 6,043,219 A (IANDOLO et al) 28 March 2000 (28.03.2000), see column 1, line 17 - column 2, line 32; column 9, lines 49-61.	1-11
Y	US 5,137,728 A (BAWA) 11 August 1992 (08.11.1992), see column 1, lines 44-58; column 5, line 57.	1-11
Y	US 5,981,473 A (BAREFOOT et al) 09 November 1999 (09.11.1999), see column 3, lines 59-67; column 10, lines 27-49.	1-11

☐ Further documents are listed in the continuation of Box C.☐ See patent family annex.

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier application or patent published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T"

later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X"

document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y"

document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&"

document member of the same patent family

Date of the actual completion of the international search

23 March 2004 (23.03.2004)

Date of mailing of the international search report

26 JUL 2004

Name and mailing address of the ISA/US

Mail Stop PCT, Attn: ISA/US
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

Facsimile No. (703)305-3230

Authorized officer

Christopher R. Tate

Telephone No. 703-308-0196